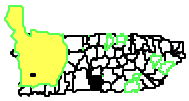
GE WIRING DEVICES

PUERTO RICO

EPA ID#PRD090282757



EPA REGION 2

CONGRESSIONAL DIST. 01

Juana Diaz County

Juana Diaz

Site Description

General Electrical (GE) Company Wiring Devices Site is located in the south central part of the island of Puerto Rico, in Juana Diaz. GE manufactured mercury light switches at this 5-acre site from 1957 until 1969. Approximately ½ ton of mercury was discarded, along with 4,000 cubic yards of defective switch parts and plastic scraps, into a ½-acre waste area located on the site. A concrete retaining wall and a fence separate the waste area from nearby residences. There are approximately 10,000 people living within 3 miles of the waste area. Groundwater in the area is used as a source of drinking water, with a public supply well located approximately 1,500 feet west of the waste area.

Site Responsibility:

This site is being addressed through Federal and potentially responsible parties' actions.

NPL LISTING HISTORY

Proposed Date: 12/01/82

Final Date: 09/01/83

Threats and Contaminants

Soil, and debris located in the waste area are contaminated with mercury from the former manufacturing activities. The inhalation of mercury vapors from the site poses the greatest potential health risk. Mercury detected on site is primarily organic mercury, considerably more toxic than other forms.

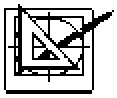
Although low concentrations of volatile organic compounds (VOCs) have been detected in onsite monitoring wells, the groundwater data do not support a conclusion that the facility is a source of these low concentrations of VOCs. Mercury concentrations in groundwater monitoring wells are below the 2.0 ug/l of drinking water MCL. The vertical transport of mercury through the soil is limited and controlled by the chemical properties of mercury and the adsorptive characteristics and hydraulic conductivity of the underlying continuous layer of dark brown silt/clay.

Cleanup Approach

This site has been addressed through off-site disposal of the mercury contaminated wastes.

Response Action Status

Immediate Actions: General Electric installed a storm drain system and retaining wall in 1982 as a preliminary action to control migration of surface mercury contamination toward nearby residential areas.



Entire Site: Based on the results of the site investigation, in September 1988, EPA selected the final methods to be used for cleanup of the site including: (1) conducting treatability studies on the soil and debris and treating the waste materials, water, and contaminated on-site surface soil with a process that separates the mercury from soils thru leaching and subsequent mercury recovery; (2) disposing of cleaned material to disposal areas located on the site; (3) additional groundwater and soil investigations; and (4) groundwater and air monitoring to ensure the effectiveness of the cleanup actions. General Electric completed the groundwater study in 1993 and it was determined that groundwater has not been impacted by the waste pile. In addition, additional soil sampling near the waste pile and the residential yards was completed in August 1993. The treatability studies conducted by the US Bureau of Mines on the hyrdrometallurgical treatment of the mercury waste were found to be ineffective. General Electric has conducted treatability studies on other processes, including a different hydrometallurgical treatment. The treatability study for the new hydrometallurgical treatment process was completed in September 1994 and the design of this process was completed in December 1995. GE selected a remedial action contractor (Metcalf & Eddy, Inc.) in June 1996. The remedial action commenced in April 1997. The first phase of the hydrometallurgical treatment, which involved washing and separating various contaminated materials from the waste pile, was completed in March 1998. GE sent a request to EPA for re-evaluation of the remedy. EPA completed the re-evaluation and requested that GE prepare a Focused Feasibility Study for off-site disposal of contaminated material to a RCRA Subtitle C Landfill. A ROD amendment was issued on July 1, 1999 to address the remedy change. A total of 13,424 tons of waste were disposed at Safety-Kleen's hazardous waste landfill in Pinewood, South Carolina, and 172 tons of waste were disposed at Mercury Waste Solution's retort facility in Union Grove, Wisconsin. All the work was completed by January 2000.

Site Facts: An Administrative Order of Consent was signed by General Electric to undertake the investigation to determine the nature and extent of contamination and to identify alternatives for cleanup, as well as responsibility for designing the methods and conducting the overall cleanup of the site.

Cleanup Progress

The immediate actions described above stopped the potential migration of contaminants from the GE Wiring Devices site to nearby residential areas. GE completed all off-site disposal of mercury contaminated materials to a RCRA Subtitle C Landfill in the mainland USA. A final Close-out report was issued in June 2000 to address all the cleanup for the Site. The Site has been deleted from the NPL.

Site Repository

Juana Diaz City Hall, Casa Alcaldia de Juana Diaz, Calle Degetau, Juana Diaz, Puerto Rico

U.S.E.P.A. REG II, Caribbean Env. Protection Div. Centro Europa Bldg, Suite 207, 1492 Ponce de Leon Ave. Santurce, P.R. 00907-4127.

U.S.E.P.A. REG II, Record Center, 290 Broadway, 18th Floor, New York, New York 10007-1866